For I was told by a great maſter of horſes, who had many years experience of Stallion barbs, the beſt he could buy, that the baſtard barbs, deſcending from the beſt *Engliſh* mares he could obtain, were conſtantly better ſhaped, and better for the ſaddle and other ſtronger ſervice, than their Syres. But I turn'd here aſide to name *Ireland*, becauſe the rot of ſheep is not ſo ordinary in *Ireland* as in *England*, and they are nearer *Spain* and *Tangier* than we are: And they are highly to be commended for their late induſtry, both in the linnen and Woollen manufactures; which may nobly provoke our emulation. And whilſt *England* and *Ireland* ſtrive to excel each other in good things, we draw cloſer to a perfect union, and to give ſtrength and aſſiſtance to each other mutually. Sir, you having been long accuſtom'd to bear the burthen of uſeful Inquiries, and to promote the common good, you'l pardon this freedom in, *&c.*

An Account of ſome Books.

I. *About the Excellency and Grounds of the MECHANICAL HYPOTHESIS, ſome Conſiderations occaſionally propos'd to a Friend by* R. B. E. *Fellow of the R. Society.* London. 1674. *in.* 4°.

THIS Diſcourſe is annexed to another, entituled, *The Excellency of THEOLOGY, compar'd with NATURAL PHILOSOPHY*; which though it be not of a direct tendency to the deſign of theſe Tracts, yet doth it occaſionally mention divers things, fit to be taken notice of by a Student of Natural Philoſophy; ſuch as are the uſeful Hints and Directions to guide him in the making Experiments skilfully and warily (*p.* 118, 119;) to encourage him to the Improvement of Natural Philoſophy, now that the *Mechanical Hypotheſis* is ſufficiently ſettled, and the right Methods of Inquiring are found out (*p.* 171.) to inſtruct him how injurious *Syſtematical* Writers are to the true ſearch of Nature (*p.* 193.) and what care is to be had of eſtabliſhing *Philoſophical Hypotheſes* (*p.* 208.) as alſo how much remains yet to be diſcover'd of Nature (*p.* 174, 176, 178.) and how Philoſophy hath recoiled by the *Ariſtotelians* laying aſide Mathematicks, and diſputing of Generals (*p.* 204.) and by whom the Experimental and Mathematical Way of Philoſophizing hath been reſtored and brought into eſteem (*p.* 205, 206:) Among which particulars there occur alſo ſeveral notable Conſiderations about the Nature of Body and Senſation (*p.*144,145.153;) and divers Inſtances of Philoſophy improved (*p.* 209, 210, 211;) not only in reference to the underſtanding of the ſenſible Qualities of things, and their Cauſes, (*p.*211,212;) but alſo as to Practical Inventions and Inſtruments (*p.* 213,) *&c.*

But to paſs to that Diſſertation, which is more within our Sphere, *viz.* Concerning the *Excellency* and *Grounds* of the *Mechanical Hypotheſis*; the Noble Author thereof maketh it his buſineſs to evince, that the other *Hypotheſes*, entertain'd by the ſeveral Sects of Philoſophers, are ſo far from overthrowing the *Mechanical*, that they will either be foiled by it, or found reconcileable to it. In the doing whereof, having firſt declared his meaning about the ſubject diſcours'd of, (*viz.* the *Mechanical Philoſophy*,) he ſuccinctly and plainly delivers the particulars that recommend it.

1. Of the Principles of things *Corporeal* (for ſuch only he here treats of;) none can be more *few* without being inſufficient, or more *primary*, than *Matter* or *Motion.*

2. The natural and genuine effect of variouſly determin'd *Motions* in portions of *Matter*, is, to divide it into parts of different *Sizes*, and *Shapes*, and to put them into *different Motions*; the conſequences of which are, *Poſture*, *Order*, *Scituation* and peculiar *Textures.*

3. The parts of *Matter* endow'd with theſe *Catholick affections* are by various aſſociations reduced to Natural Bodies of ſeveral kinds, according to the plenty of the matter, and the various Compoſitions and Decompoſitions of the Principles; which all ſuppoſe the common Matter they diverſify: And theſe ſeveral Kinds of Bodies, by Vertue of their Motion, Reſt, and other Mechanical Affections, which fit them to act and to ſuffer, become endowed with ſeveral Kinds of Qualities, and with thoſe that work upon the peculiarly fram'd Organs of Senſe, whoſe Perceptions by the animadverſive Faculty of the Soul are Senſations.

4. Theſe Principles *Matter*, *Motion*, *Reſt*, *Bigneſs*, *Shape*, *Poſture*, *Order*, *Texture*, being ſo *ſimple*, *clear*, and *comprehenſive*, are by our Author ſhown to be applicable to all the real *Phæ-*

nomena of Nature, which ſeem not explicable by any other not conſiſtent with theſe. For, *ſaith he*, if recourſe be had to an Immaterial Principle, it may be ſuch an one, as is not intelligible; and however it will not enable us to explain the *Phænomena*, becauſe its *manner* and *way* of working upon things Material would probably be more difficult to be *Phyſically* made out, than a Mechanical account of ſuch Effects. And as to an Immaterial *created* Agent, we cannot conceive, how it ſhould produce changes in a Body without the help of Mechanical Principles, eſpecially *Local motion*; and accordingly we find not, that the Reaſonable Soul in Man is able to produce what changes it pleaſeth in the Body, but is confin'd to ſuch as it may produce by determining or guiding the Motions of the Spirits, and other Parts of the Body, ſubſervient to voluntary Motion.

5. And if the Active Principles reſorted to, be not Immaterial, but Corporeal, they muſt either in Effect be the ſame with thoſe lately mention'd; or, becauſe of the great Univerſality and Simplicity of the ſame, the New ones propos'd muſt be leſs general than *they*, and conſequently capable of being ſubordinated or reduced to thoſe aſſerted by our Author, which by various Compoſitions may afford matter to ſeveral *Hypotheſes*, and by ſeveral Conditions afford minute Concretions exceedingly numerous and durable, and conſequently fit to become the Elementary Ingredients of more compounded Bodies, being in moſt Trials Similar, and as it were the Radical Parts, which may after ſeveral manners be diverſified, as in a Language the Themes are by *Præpoſitions*, *Terminations*, &c. So that the fear, that ſo much of a *New* Phyſical Hypotheſis, as is *true*, will overthrow or make uſeleſs the *Mechanical* Principles, is, as if one ſhould fear, there will be a Language propos'd, that is diſcordant from, or not reducible to, the Letters of the Alphabet.

II. " IN my laſt, (*N*°. 102.) I promiſed a fuller account of " Mr. *John Smith's ENGLANDS IMPROVEMENT* " *reviv'd*, in a Treatiſe of Husbandry and Trade, by Land and " Sea; plainly diſcovering the ſeveral ways of improving the " ſeveral ſorts of waſte and barren grounds, and of enriching all " Earths, with the natural quality of all lands; and the ſeveral

“ Seeds and Plants, which naturally thrive therein, obſerv'd,
“ &c. Together with the manner of Planting all ſorts of
“ Timber-trees and Under-woods: Experienced in 30
“ Years Practice, and digeſted into Six Books.

The Books are brief, and all contain'd in a thin 4°; addreſſed to the Lord Viſcount *Brouncker*, Preſident of the *R. Society:* Recommended for the Uſefulneſs and Publick Benefit by the worthy *John Evelyn* and *Samuel Woodford* Eſqs; both Fellows of the ſame ſociety, with ample and hearty teſtimonials. The moſt worthy and moſt generouſly obliging are leaſt of all prone to be envious, but do rejoyce in every hand that brings the beſt aſſiſtance to promote the publick weal:

Livor, iners vitium mores non exit in altos, } Ovid.
Utque latens imâ vipera ſerpit humo }

I beg leave to add this free note: if the waſts and abuſes of forreſts herein particularized ſhall for the future be avoided; and the waſts, commons, and bald hills be henceforth cultivated, as is hereby directed; and if our nobility and wealthy gentry ſhall follow the royal and moſt illuſtrious examples, and take heed of chuſing or truſting ſuch ignorant and lazy ſtewards and bayliffs, as *Columella* rejects; we may hope, in a ſhort time to ſee *England* as much excel it ſelf in rural improvements, as our *metropolis* is advanc'd from her late confuſion and aſhes by her preſent and ſpeedy reſtoration. And to confirm this *item*, we may already ſee, how largely our rural affairs have flouriſh'd, ſince Mr. *Evelyn* publiſh'd his excellent Volume of *Sylva* and *Pomona*, to direct and encourage the Plantation of Forreſts, Woods, Groves, and the richeſt Cyder-Orchards; which *Volume* had not its due Fulneſs, nor compleat Emendations, till *Anno* 1670. in a ſecond Impreſſion.

He muſt needs be a lazy and ignorant Steward, that cannot provide a nurſery of *Mulberry-trees*, nor can yet underſtand that from this diligence the greateſt part of the wealth of *France* is now (and but lately) maintain'd. If God ſhall be pleas'd to bleſs the fruits of the Earth, we have fair and viſible grounds to hope that good and wholſome Cyder (better than was known to our Forefathers) will the next following year be at eaſy rates, to be had on all the Roads of *England* from the remoteſt Weſtern Parts to *London*, and a 100 Miles deep towards the North from our Southern coaſts: And the richer counties in the Eaſt will diſdain to come behind, nor can fail, if they take equal care that their cyder be good and wholſome. And this will be great ſatisfaction to all travellers, who by experience do find the ſalubrity of cyder, or do diſguſt the many changes and miſchances of beer, by ill brewing, or ſooty malt, dried on wood-fires, *&c.* And if gentlemen, when they return from foreign parts, would be pleas'd to bring over ſuch as have skill in planting vineyards, ordering the whole vintage, and making wine, we might reaſonably hope to ſee as great advancement of *Vineyards* within 5 or 6 years, as we do of *Orchards* this day:

Sed tamen eſt Artis triſtiſſima Janua noſtræ,
Et labor eſt unus, tempora prima pati.
Dimidium facti qui bene cæpit habet.

Janus being asked, why Frankincenſe and Wine ſhould be offer'd to him firſt before all other Gods?

Omnia principiis, inquit, ineſſe ſolent. Ovid. Faſt. l. 1.

Good beginnings run a great way: and juſtly we give the firſt honour to him that leads the way, or opens the portal, by a fair example, which ſeldom fails of a good effect among the ingenious.

But to paſs to the Book itſelf, the Frontiſpiece to it is ſo copious and expreſſive, that I may be the briefer in my Extract.

In the 1ſt Book. Trade ſupported by Navigation. His Majeſties Sovereignty in the *Britiſh* Seas juſtified by the moſt ancient and all modern Records, and the practice of other Nations: Forreſt and Timber the ſtrength of the Crown and Kingdoms. Hammers and Furnaces for Iron, great waſters of wood and timber; and horrible waſts committed by keepers, forreſters, and others.

In the 2d Book. Directions to make a ſerviceable and profitable fence, and the charges. Some ground unkind for trees. The original of plants. The choice of ſeed and plants.

In the 3d Book. Directions to plant one acre of land ſeveral ways, and at ſeveral diſtances. The number of ſeed and plants given to plant a 1000 acres of land at ſeveral diſtances. The beſt ſeaſon of the year, and the manner of plowing ground to ſow ſeeds, or ſet plants. Several obſervations for the choice and ordering of ground for the diverſity of ſeed; for tranſplanting trees, underwoods; for tranſplanting trees of great bulk and growth; for dreſſing and pruning trees. The growth and age of timber-trees almoſt incredible.

In the 4th Book. The profit of planting a 1000 acres of land with ſeed, or ſets for timber-trees and under-woods. An Account given of 29548000 acres of land in *England*, beſides that which is allow'd for the high-ways. Loſs of ground by reaſon of the fence. The charges of plowing and planting ſeeds and ſets for Timber-trees and Under-woods. The charges of delving lands for the ſame Uſes.

In the 5th Book. Of planting pleaſant Walks with Timber-trees and Groves. The charges and profits of keeping a 1000 tame Conies. Of Sheep. Several directions to make an Aviary; alſo a Fiſh-pond. Of Pigeons. The choice of Cows for a Dairy. A view of rural Amænities, *p.* 177, to 183. Again, a rural Proſpect of a well-order'd Village, *p.* 190, to 193. Directions to plant Herbs, *p.* 185. and Hops 188. An Alphabet of Herbs for a Kitchin-garden, and vulgar Medicines from Vegetables for Country-farmers.

The 6th Book. *Anno* 1633, he was ſent by the Earl of *Pembroke* for the diſcovery of the Iſle of *Shetland*; to obſerve the manner of trading, the profits and cuſtoms thereof, the ſettling of a ſtaple, the building of ſtore-houſes, the viewing of ground on ſhore for landing and drying of nets, of the ordering and drying of fiſh, the manner of the *Hollanders* fiſhing for herring with buſſes, and with other veſſels for ling and cod; of all which he here publiſhes his Journal, beginning *April* 27, 1633. And here he gives a particular account of the chief Iſlands about *Scotland* (in all above 300, ſaith *Speed*; and the author takes notice of more Iſlets than can eaſily be numbred.) Of the *Hamburgers* fiſhing on other Iſlands there. What fiſh the inhabitants do catch, and how. The dangerous rocks, and violent winds. That *Saltpans may be ſet up in* Shetland, *and good ſalt made to ſerve all the fiſhing fleet*, p. 255. The *Scots* in *Shetland* were provided of hooks and lines, for the taking of ling and cod; nets, for the taking of herring; ſtrong beer, biskets, wheaten meal, ſalt, peaſe, fruits of all ſorts, ſtrong water, *Monmouth* caps, and many other particulars, *p.* 256. The inhabitants of the Iſle of *Ounſt* uſually have a bark that they trade with to *Norway*, where they may buy timber for houſes, ready framed, deal-boards, tarr, ſhips, barks, and boats of all ſorts.

In one of their ſmall fiſhing-boats, rowing with two men, ſometimes with four, they do uſually bring to ſhore, every morning that they go to ſea, 50 or 60 ling and cod, and they take many barrels of herrings: For the *Hollanders* buſſes driving at ſea do break the ſhole, and then the herrings fly near the ſhore through the ſounds, where the *Scots* take them with their ſmall boats and nets. Had they better tackling they would do better, *p.* 256, 257. *And, which is more than all, they have skilful and hardy fiſhers to endure wind and weather, and to be content with their own proviſions. Here a* London-purſe, *or a full* Engliſh-purſe, *would do wonders; and the time draws near to prepare for the buſineſs.* In *Shetland* they had then fat oxen at 3 *l.* each oxe; fat ſheep at 2 *s.* or 2 *s.* 6 *d.* each fat ſheep; conies, eaſie to be taken in abundance; and fowl, *&c. p.* 257. He bought in the Iſle of *Ounſt* 11655 gild ling of the largeſt ſize, (if ſmaller, he had two for one, or three for two,) and 835 gild cod, which are the largeſt cod, all taken by the inhabitants of *Ounſt*; all brought to his booth, or the place of his abode, as ſoon as they were caught, every morning. The large gild ling did coſt him but 3 *d.* a-piece; the gild cod but 2 *d.* a-piece. They were ſalted aboard the ſhip, *p.* 254. *Muffet* values a ling of 2 years old at a Noble, as the uſual rate in his time, about 60 years ſince, or upwards; and the price of fleſh in *London*, and other parts of *England*, may now juſtly raiſe the price of fiſh.

Our Author goes on to ſhew, that trading is the life of all the habitable world; how it firſt raiſed the *Venetians*, then the *Genoueſe*, next the *Portugueſe*, then the *Eaſterlings*, laſtly the *Hollanders* above all, by the fiſhery, *p.* 258, 259, *&c.* He proves by accurate Inſtances, and grounded Calculations, that (ſo long ago) *Hollanders*, and other Foreigners, gained by their fiſhery from the coaſts of *England*, *Scotland*, and *Ireland*, to the value of millions of pounds yearly. And hence is their abundance of ſhipping, pilots and ſeamen. And he ſhews how the *Hollanders* do exchange their fiſh to drive their main Trade, and to circulate the wealth in the world into their own centers and purſes.

Compare herewith Mr. *Evelyn's* lately publiſh'd ingenious diſcourſe of the *Original and Progreſs of Navigation and Commerce*, eſpecially *p.* 107, 108, 109, *&c.* printed in *London* in *Octavo.*

III. Davidis von der Beck, *Mindani*, Experimenta & Meditationes circa *Naturalium Rerum Principia*, &c. Hamburgi 1674. in *Octavo*, *dedicated to the* Royal Society.

Before any thing be ſaid here about the particulars contained in this treatiſe, the publiſher thinks himſelf obliged to obſerve to the reader a great miſtake which the learned author of this book commits in aſcribing theſe *Philoſophical Tranſactions* to the *Royal Society*, as if thoſe of that illuſtrious body were the authors and compoſers of them; whereas 'tis well known, and hath been ſeveral times declared, and inculcated in theſe very *Tracts* *, that 'tis far otherwiſe, and that none but one particular member of the ſaid ſociety, is the compoſer and publiſher of the ſame; which being thus premiſed, 'twill not be amiſs further to take notice here of the occaſion that hath been given to our author of writing this book, which ſeems to have been the laſt clauſe of the deſcription formerly given in *N. 92.* of theſe *Tracts*, *p. 5192.* concerning the pre-exiſtence of the fixt and alcaliſate ſalts in mixts before calcination, and the cauſes of volatilization, both treated of by our author in his *Epiſtle* to Dr. *Langelot*, abbreviated in the ſaid *Number*; which doctrine of his, that he might clear up the better, he thought fit to deliver his opinion about the firſt principles of natural things; which he endeavours to do in this treatiſe: *Firſt*, By rejecting the *four peripatetick Elements*, and the received *Principles* of the *Chymiſts*, from being the firſt principles of natural bodies *; *Secondly*, By aſſerting *Elementary Water* and *Seeds* to be the true principles of them, and making ſuch water the ſole *Material*, and the *Seeds* of bodies, the ſole *Formal* principle, and affirming theſe two ſo to concurr to the conſtitution of all corporeal beings, that the *former* is the matter common to them all, and the *latter* the form diverſifying that indifferent matter into an innumerable variety of bodies, by means of an univerſal celeſtial acid, the proper ſeat of all ſeeds, and coagulating this elementary water into the

* See Numb. 12. p. 213. Numb. 86. p. 5047.

* See and compare herewith the Honourable *R. Boyle*'s Sceptical Chymiſt throughout; publiſh'd *Anno* 1661. in *Engliſh*, and *Anno* 1662. in *Latin*.

various bodies of the univerſe *.

Here he takes occaſion to diſcourſe largely of the nature of *fire*, the better to evince, how *that* deſerveth to be counted a principle of natural bodies, after he had affirmed, that *Acids*, which he maketh to be fiery ſubſtances, as they are the domicil of Seeds, by their motion and coagulating power do diverſify the common elementary Water into thoſe various bodies, of which this world is made up.

Fire then, according to him, *is a moſt ſwift motion of a Volatil acid ſulphur*; the motion of particles being the *Form* of fire, and the volatil acid parts the *matter* that's moved. Where he maketh a digreſſion to ſhew the Inebriating power of *Acids*, and how effectual *Alcalies* are to retund and mortifie that vertue. Which done, he proceeds to elucidate further the nature of fire from oyls and fats, and to make it out by experiments, that the matter of the flame of burning Oyls are their *Acids* particles; for as much as oyls prepar'd by evaporating Spirit of wine from them, or by abſtracting them from quick-lime, or by diſtilling them even from bricks, do not flame ſo much as they would do otherwiſe; which way of preparing oyls he conceives to conſiſt in nothing but the deſtruction of the Acid particles thereof; obſerving further; that candles made of mutton-Suet burn away much ſooner than thoſe made of other Suet, by reaſon of the abundance of *acid* particles in the ſame, far exceeding thoſe in other kinds of fat, *&c.*

Having diſpatch'd this argument, he goes on to prove more fully; *firſt*, that the *ſeeds* of things are harbour'd in ſome *acid* or other, more or leſs manifeſt: *ſecondly*, that all bodies are from *water* coagulated into various *ſpecies*'s by *ſeeds*. Where he infers, that that ſeminal acid of fats being conſum'd by flames, the remainder, now depriv'd of that acid, is reſolv'd into elementary water, and inſenſibly diſſipated into vapours; as the aqueous parts of the moſt rectified ſpirit of wine, being put into flame, fly away together with the ſpirit in vapour. Where he takes no ſmall pains to *demonſtrate*, (*as his expreſſion is*) the acidity of flame; and withal to ſhew, that in all inflamable bodies

* *Quare*, What is meant by this *Elementary Water?* And, Whether, if it be *Inſipid Water*, or any, how ſimple ſoever it ſeem, may not be reducible into ſomething elſe? And what, if this water, here call'd *Elementary*, ſhould be all convertible into Earth? As it hath been actually tranſmitted into it by Mr. *Boyle*. See his Book of the Origin of Forms and Qualities *p.* 251. exp. *9th.*

dies there are acid particles, that may juſtly be called *fire*, and that there is ſuch a fire in the ſtomach of all Animals, and even in the ventricles of all Muſcles; (for, according to him, every Muſcle and part of the Body hath its peculiar ventricle or ſtomach, which impregnates the ailments convey'd to them with the ſeminal acid of the part, whereby the nouriſhment is turn'd into the nature of this or that muſcle, or nerve, vein, artery, or any other part.) And as this fire is by him placed in all Animals, ſo he endeavours to prove it to be in all Minerals and Vegetables, whereby the matter, convey'd to them for their nouriſhment and increaſe, is, according to the diverſity of the Seminal acid ſulphur, converted into this or that mineral or plant.

Again, in that part of this book, where the author maketh it his buſineſs to prove, that the *Tria Prima* of the Chymiſts are not the true principles of natural things, he undertakes, where he treats of that reputed principle, *Salt*, to bring clearer proof of what was formerly ſaid in *Num.* 92. of theſe *Tracts*, not to have been ſufficiently prov'd, *viz.* that the fixed alcaliſate ſalts do as ſuch by no means pre-exiſt in bodies before calcinations; after he hath firſt diſtinguiſh'd between the *firſt* tartareous ſalt that is in all the juyces of vegetables really and formally, without calcining them, (of which he ſaith he ſpeaks not,) and the fixt *Alcaliſate* ſalt of the tartar *e.g.* of wormwood, which he poſitively affirms not to have formally pre-exiſted in the body before calcination, becauſe he will have that produced by the colliquation made by the fire of the Volatile ſalts with the terreſtrial parts of the body; and the union of the terreſtrial parts with the ſaline to be the ſole cauſe of fixity: as on t'other hand he maketh the ſeparation of thoſe earthly parts the true and only reaſon of volatility. Which whether he hath evinced by ſuch irrefragable proofs, as he thinks, we muſt ſtill leave to truly Philoſophical and ſagacious chymiſts to judge; and ſhall only take the liberty to demand, whether he be ſure, that two acids may not without any terreſtreity be ſo combined and brought into ſuch a texture, as to afford a fixt body, that ſhall endure a conſiderable degree of heat before it be ſublimed or volatilized? Which that they may, we have hopes to find proved experimentally in an Eſſay of Mr. *Boyle*, in due time to be publiſh'd about the mechanical production of the qualities of Bodies.

As to the principles eſpouſed by our author, *viz.* *water* and

ſeeds,

Seeds, and the large proofs he brings to aſſert them, we ſhall here ſay nothing, but deſire the intelligent reader to compare his whole diſcourſe with that of the noble author of the conſiderations about the *excellency and grounds of the mechanical hypotheſis*; which we have already given ſome account of above.

Mean time we cannot but commend this philoſopher for taking particular notice of that admirable work of *nutrition*, whereby, *for inſtance*, an Ox grows in all and every part of his, whether it be muſcular, bony, cartilaginous, nervous, *&c.* only by graſs and plain water, which paſſing into the head, heart, lungs, liver, arms, feet, *&c.* do become each of thoſe parts reſpectively, and doing ſo, give us to conſider, that each part contains ſomething peculiar, that is not in any other part, by means whereof the aliment convey'd thither is converted into the nature of (*e.g.*) the heart, not the liver, the lungs, not the ſpleen, *&c.*

But, how he comes to make ſuch an eſtimate, that that part of a ſeed, in which properly the prolifique virtue lodgeth, and which is ſtrictly called the *geniture*, is no more than the two thouſand eight hundredth part (2800) of its body; and who are all thoſe *genuin* philoſophers whom he appeals to, *p.* 173, 264, I ſhould be very glad to be inform'd of.

After he hath amply diſcourſed in general of the nature of ſeeds, and the ſeminal idea or character, he proceeds to particulars, applying his general diſcourſe to the generation of animals, vegetables and minerals. Of *animals* he taketh in hand the nobleſt of them, *Man*, and giveth a large account both of his formation in the womb, and his nutrition when brought into the world. Where do occur many obſervables, touching the active power of the ſeed of the Female, the production of viviparous animals from eggs, the manner of conception, the gathering of the ſeed from all the parts of the animal, and the imprinting of the particular characters of each part in the blood, moving through the whole body, and by the blood, as a vehicle, to the organs of generation: further, the cauſe of the determinate ſizes of animals, eſpecially of men, pigmies and giants; the ſtrange force of imagination exemplified; the ſufficiency of the ſeed of the male to impregnate many eggs at once, eſpecially of a cock; the cauſe of Monſtroſity; difference of ſexes; and death; of the remaining of the idea's or characters in the bodies of animals after death; to which he joyneth his thoughts about the reſuſcitation of plants.

Having finiſh'd this part concerning *generation*, he goes on to ſhew, how *nutrition* is materially perform'd in all ſorts of bodies, *viz.* by water alone; which he endeavours to make out by reaſon and authority, particularly alledging for his authority *Van Helmont* and Mr. *Boyle*; the latter of which I much apprehend to be miſ-underſtood by our author in this particular; as he is alſo miſtaken by the ſame, when he is introduced as a perſon judging, that *Van Helmont* (for whom he hath yet a juſt eſteem,) by reaſon of the incredible veracity of his experiments is not eaſily to be disbeliev'd; for which allegation, I think, no place of Mr. *Boyle* can be produced out of any of his works to run in that latitude.

And as this writer believes *water* to be the material principle of all things, ſo he attempts to ſhew, what that power and virtue is, which coagulateth the water into ſolid bodies, and applieth it to theſe ſeminal characters, which he had afore diſcourſed of; and this he maketh to be the *igneous and vivifying ſpirit*, lodged by the creator in the *ſun*, and convey'd to the ſeveral bodies of the univerſe by the air and wind, imbu'd with thoſe vital and benign rays of of the ſolar globe: which ſpirit though it be, according to him, but one, and, before it be incorporated, indifferent to make fæcund the bodies of all the three kingdoms; yet it acquires its ſpecification, or is determined according to the determinate nature of the ſeeds; and the moſt ſubtile parts of that ſpirit being acid, they do by this acid power coagulate the water into ſolid bodies.

LONDON,
Printed for *John Martyn*, Printer to the *Royal Society*, 1674.